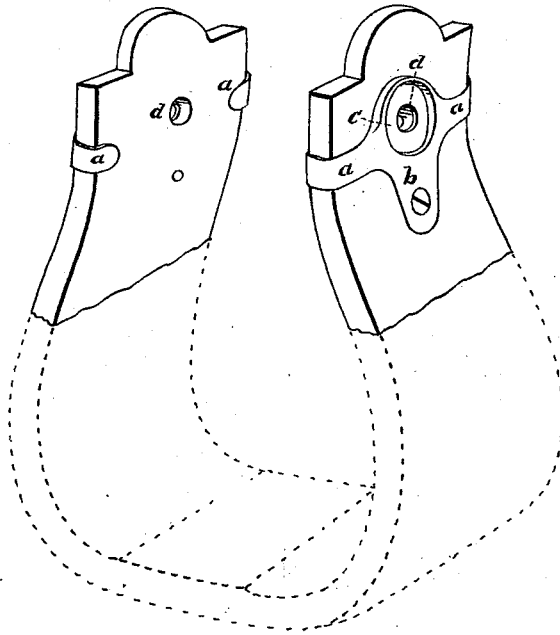


H. H. KNIGHT.  
STIRRUP.

No. 189,363.

Patented April 10, 1877.



Witnesses;  
James L. McGowan,  
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# UNITED STATES PATENT OFFICE

HENRY H. KNIGHT, OF SANDUSKY, OHIO.

## IMPROVEMENT IN STIRRUPS.

Specification forming part of Letters Patent No. 189,363, dated April 10, 1877; application filed February 28, 1877.

### *To all whom it may concern:*

Be it known that I, HENRY H. KNIGHT, of Sandusky, in the county of Erie and State of Ohio, have invented certain new and useful Improvements in Stirrups; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention, which belongs to the class of wooden saddle-stirrups, is to strengthen the sides of the stirrup and prevent the wood from warping out of place and splitting. It applies specially to those wooden stirrups which are made with a bolt connecting the ends of the stirrup. In this class of stirrups the stirrup-strap is generally attached in such a way that the strain comes on the bolt-holes, and my present invention is an improvement in the construction of the bolt-plates for the sides of a stirrup for which Letters Patent No. 186,853 were granted to me January 30, 1877, so that the plates stiffen the sides of the stirrup, and prevent them from warping out of place or splitting.

It consists of a plate with an eye through which the bolt passes, and side arms which are long enough to be bent round the edges of the stirrup. The plate is constructed so that it can be screwed to the side of the stirrup, but the essential feature of this improve-

ment is the side arms which clinch round the edges of the stirrup.

The accompanying drawing shows both the outside and inside of the ends of a wooden stirrup with my improved bolt-plates attached.

The plate is intended to be applied to the outside of the stirrup. A recess, *c*, in the side of the bolt-plate round the eye *d*, receives the head of the bolt or the nut. The arms *a* are long enough to bend round the edges of the stirrup and clinch on the inside. An ear, *b*, on the bottom of the bolt-plate, is screwed to the stirrup, and distributes the strain so that it does not all come on the upper half of the bolt-hole in the wood of the stirrup.

I claim as my invention, and desire to secure by Letters Patent—

1. A bolt-plate for wooden stirrups, constructed with side arms *a*, which are bent round the edges of the stirrup, substantially as described, and for the purposes set forth.

2. A bolt-plate for wooden stirrups, constructed with the side arms *a*, which extend over the edges of the stirrup, and ear *b*, substantially as described, and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HENRY H. KNIGHT.

Witnesses:

JOHN WHITWORTH,  
PATRICK QUINN.